

# Mineral Industry Surveys

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## COBALT IN FEBRUARY 1998

U.S. consumption of cobalt in January and February 1998 was slightly lower than consumption during the first 2 months of 1997, according to the U.S. Geological Survey. U.S. imports of cobalt metal and cobalt contained in chemicals were 65% higher in January 1998 than imports in December 1997. Exports of unwrought cobalt and cobalt contained in chemicals in January 1998 were 12% higher than exports in December 1997. Trade data for February 1998 will be available in a subsequent issue.

### Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

### Update

On April 24, the Defense Logistics Agency (DLA) announced the results of its April 22 cobalt offer. The DLA awarded 236 tons (519,758 pounds) at a total value of \$10.4 million. Awards were made to the following companies: Glencore Ltd., Stamford, CT (194 tons); Phoenix International Resources, Carnegie, PA (18 tons);

United Mineral Resources, Inc., Sewickley, PA (10 tons); and Voss Metals Co., Rockford, IL (14 tons).

The sale of approximately 227 tons (500,000 pounds) of cobalt is scheduled for May 27, 1998. For further information on DLA's cobalt sales program, please contact June Olmsted, DLA's contracting officer for cobalt, at (703) 767-5492.

Price update, in dollars per pound of electrolytic cobalt (Source—Platt's Metals Week):

<u>Week ending</u>	<u>Price range</u>
March 27	24.50-25.50
April 3	24.50-25.25
April 10	24.50-25.25
April 17	24.00-25.00

### Monthly average

March  
24.91

TABLE 1  
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
1997:				
February	287	134	165	587
March	274	133	171	578
April	304	132	173	610
May	297	128	174	599
June	270	126	174	570
July	270	119	169	557
August	295	113	173	580
September	288	130	172	590
October	298	130	174	602
November	275	121	166	563
December	259	141	171	571
January-December 4/	3,420	1,550	2,040	7,010
1998:				
January	290 r/	112	166	568 r/
February	294	126	167	588
January-February	584	238	334	1,160

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

TABLE 2  
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	1997		1998	
	January-February	January-December 2/	February	January-February
Steel:				
Stainless and heat resisting	6	38	3	6
Tool	29	113	17	28
Superalloys	581 r/	3,390	292	579
Alloys (excludes steels and superalloys):				
Magnetic alloys	106	701	57	112
Welding materials (structural and hard-facing) 3/	59 r/	341	29	59
Other alloys 4/	W	W	W	W
Cemented carbides 5/	107 r/	724	52	112
Chemical and ceramic uses:				
Catalysts	102	600	49	98
Driers in paints or related usage	113	696	59	103
Ground coat frit	34	162	13	27
Pigments	W	W	W	W
Miscellaneous and unspecified 6/	56 r/	248	17	34
Total	1,190 r/	7,010	588	1,160

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes wear-resistant alloys.

4/ Includes nonferrous alloys.

5/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

6/ Includes feed or nutritive additive, full-alloy steel, glass decolorizer, mill products made from metal powder, and data indicated by the symbol "W."

TABLE 3  
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Industry 2/				U.S. Government, metal 3/
	Metal 4/	Oxide and other chemical compounds 5/	Scrap	Total	
1997:					
February	303	269	92	665	18,400
March	325	251	118	694	18,300
April	370	252	88	710	17,900
May	382	239	80	702	17,800
June	365	241	81	688	17,800
July	390	250	90	729	17,800
August	324	248	89	662	17,600
September	338	251	115	704	17,500
October	333	252	110	695	17,400
November	336	251	113	699	17,200
December 6/	355	249	114	718	17,100
1998:					
January	331 r/	251	114 r/	696 r/	16,800
February	323	235	119	677	16,400

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Data from Defense Logistics Agency. Includes material committed for sale pending shipment.

4/ Includes metal powder.

5/ Data may include other cobalt materials.

6/ Data based on monthly reports.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1997:								
January	629,000 7/	\$28,400,000 7/	85,900	\$3,080,000	182,000 7/	\$1,470,000 7/	746,000	746,000
February	567,000	24,300,000	56,900 7/	1,690,000 7/	157,000	1,540,000	649,000	1,400,000
March	524,000 7/	22,800,000 7/	72,200	3,250,000	65,000 7/	519,000 7/	594,000	1,990,000
April	770,000	32,900,000	104,000	4,190,000	203,000	1,910,000	899,000	2,890,000
May	634,000	31,100,000	63,200 7/	2,100,000 7/	250,000	2,270,000	746,000	3,640,000
June	584,000 7/	28,800,000 7/	124,000	4,760,000	139,000	1,470,000	711,000	4,350,000
July	547,000 7/	26,000,000 7/	120,000	4,760,000	265,000	2,680,000	704,000	5,050,000
August	508,000	23,400,000	139,000	4,890,000	128,000	1,330,000	643,000	5,690,000
September	647,000	28,500,000	141,000	5,090,000	138,000 7/	1,390,000 7/	785,000	6,480,000
October	300,000	14,200,000	84,500	3,050,000	137,000	1,380,000	397,000	6,870,000
November	614,000	28,600,000	79,700	3,180,000	96,700	942,000	697,000	7,570,000
December	307,000	15,600,000	79,600	2,870,000	257,000	2,290,000	433,000	8,000,000
January-December	6,630,000	305,000,000	1,150,000	42,900,000	2,020,000	19,200,000	8,000,000	XX
1998:								
January:								
Belgium	3,490	247,000	12,700	540,000	--	--	12,600	12,600
Brazil	20,000	798,000	--	--	--	--	20,000	20,000
Canada	90,400	3,930,000	--	--	--	--	90,400	90,400
Congo (Kinshasa)	35,200	1,410,000	--	--	--	--	35,200	35,200
Finland	81,500	3,920,000	54,900	1,860,000	155,000	1,530,000	162,000	162,000
France	2,880	288,000	3,160	231,000	--	--	5,160	5,160
Germany	75	5,660	--	--	--	--	75	75
Italy	--	--	9	4,210	--	--	6	6
Japan	200	22,500	--	--	1,090	16,700	701	701
Korea, South	--	--	192	5,770	--	--	138	138
Norway	212,000	9,880,000	--	--	--	--	212,000	212,000
Russia	44,300	1,780,000	--	--	--	--	44,300	44,300
Switzerland	15,000	608,000	--	--	--	--	15,000	15,000
United Kingdom	--	--	43,800	1,590,000	18,000	221,000	36,000	36,000
Zambia	78,000	3,470,000	--	--	--	--	78,000	78,000
Total	584,000	26,400,000	115,000	4,230,000	174,000	1,770,000	712,000	712,000

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt sulfates, cobalt chlorides, cobalt carbonates, and cobalt acetates.

4/ Customs value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
1997:						
January	5,920	\$443,000	32,800 4/	\$1,070,000 4/	14,500	\$876,000
February	12,400	497,000	38,100 4/	1,280,000 4/	14,100	958,000
March	2,350	181,000	29,500 4/	1,170,000 4/	39,100	1,380,000
April	8,450	418,000	73,400	1,950,000	24,800	1,530,000
May	24,400	955,000	50,700 4/	1,320,000 4/	29,300	1,470,000
June	2,230	128,000	56,200 4/	1,840,000 4/	14,900	997,000
July	15,100	500,000	43,100 4/	1,260,000 4/	15,600	956,000
August	6,540 4/	293,000 4/	77,400 4/	3,860,000 4/	21,500	1,250,000
September	4,030	226,000	85,400 4/	1,680,000 4/	21,400	1,070,000
October	9,580	336,000	89,500 4/	3,790,000 4/	13,000	772,000
November	11,400	582,000	113,000 4/	3,210,000 4/	9,080	555,000
December	26,700	828,000	219,000 4/	9,300,000 4/	14,200	947,000
January-December	129,000	5,390,000	907,000	31,700,000	232,000	12,800,000
1998:						
January:						
Belgium	11,000	417,000	1,530 4/	67,800 4/	2,780	98,500
Canada	84	5,270	3,550 4/	237,000 4/	691	118,000
China	310	53,300	--	--	--	--
Finland	--	--	1,200 4/	69,000 4/	--	--
France	--	--	5,420	54,700	740	43,900
Germany	68	5,480	6,500 4/	354,000 4/	154	18,200
Italy	--	--	14,800	95,500	--	--
Japan	100	7,710	5,570	35,600	17,400	435,000
Netherlands	--	--	11,300	117,000	--	--
Singapore	--	--	--	--	16	6,400
Sweden	2,840	80,500	--	--	--	--
United Kingdom	--	--	2,070	47,500	8,820	551,000
Total	14,400	569,000	51,900	1,080,000	30,600	1,270,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 6  
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1997:								
January	60,800	\$2,350,000	30,300	\$979,000	34,100 7/	\$149,000 7/	90,700	90,700
February	101,000	2,480,000	48,100 7/	1,160,000 7/	65,500 7/	234,000 7/	152,000	242,000
March	82,000	3,990,000	50,100	1,530,000	18,500	253,000	123,000	365,000
April	143,000	5,760,000	93,100 7/	2,140,000 7/	5,430	74,100	211,000	576,000
May	77,100	3,990,000	35,600 7/	802,000 7/	65,800	428,000	118,000	695,000
June	82,900	3,760,000	56,200 7/	1,660,000 7/	75,000 7/	246,000 7/	141,000	836,000
July	55,200	2,710,000	68,000 7/	1,610,000 7/	102,000 7/	520,000 7/	129,000	965,000
August	81,600	3,290,000	32,600 7/	595,000 7/	94,200	442,000	128,000	1,090,000
September	62,900	2,010,000	42,500	1,060,000	177,000	1,180,000	136,000	1,230,000
October	53,700	2,930,000	36,800	1,190,000	59,500	588,000	94,600	1,320,000
November	102,000	2,560,000	73,800 7/	1,010,000 7/	20,100	191,000	160,000	1,480,000
December	44,300	2,150,000	65,000 7/	1,250,000 7/	64,800 7/	337,000 7/	107,000	1,590,000
January-December	947,000	38,000,000	632,000	15,000,000	782,000	4,640,000	1,590,000	XX
1998:								
January	98,900	3,840,000	22,100	624,000	21,700	118,000	120,000	120,000

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 7  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
1997:				
January	44,300	\$3,020,000	24,600 3/	\$1,000,000 3/
February	20,900	1,420,000	80,500 3/	750,000 3/
March	68,200	3,720,000	12,200 3/	145,000 3/
April	66,100	2,590,000	300 3/	7,390 3/
May	187,000	8,410,000	2,510 3/	56,500 3/
June	76,800	2,780,000	9,400 3/	651,000 3/
July	29,300	1,230,000	20,300 3/	716,000 3/
August	36,400	2,700,000	285 3/	33,500 3/
September	23,500	1,220,000	32,700 3/	282,000 3/
October	131,000	5,080,000	9,470 3/	250,000 3/
November	44,700	2,690,000	7,940 3/	109,000 3/
December	26,800	1,330,000	11,300 3/	87,000 3/
January-December	754,000	36,200,000	211,000	4,090,000
1998:				
January	31,800	1,710,000	44,500 3/	1,760,000 3/

1/ Data are rounded to three significant digits.

2/ Free alongside ship (f.a.s.) value.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.